apply themselves energetically to the development of the agricultural resources of their country.

In 1856 appeared the first edition of Maury's "Physical Geography of the Sea," which ran through many editions in the United States, was republished in England, and translated into several European languages. In this work he embodied the results of his researches on winds and currents, and propounded his well-known theory of the Gulf-Stream. Although it has been shown that this theory will not hold water, it does not in the least detract from the high and enduring value of the services he rendered to navigation and to meteorology. There is no doubt that to him is due the honour of having first shown how the latter could be raised to the dignity and the certainty of a science, though, forsooth, it is yet far enough from deserving to be called an exact one. But Maury was essentially a practical man in the best sense of the term; all his labours from beginning to end had for their one great aim, to render navigation more secure and more economical; and in the accomplishment of this aim he was eminently successful. The saving in time, in money, and in life to Britain alone which has resulted from Maury's labours it would be very difficult to calculate; through him have the characteristics of almost every mile of that part of the ocean over which the commerce of the world is carried, become as well known as any district which has been mapped by the Ordnance Survey. Dr. Neumayer, than whom no one is better entitled to pronounce judgment on such a subject, in his recent pamphlet on the Exploration of the South Polar Regions, in opposition to some ill-informed detractors of Maury's fame, speaks of him in the very highest terms; and though we hesitate to class him, as a recent writer has done, with Newton, he will certainly, and deservedly, occupy a niche in the temple of fame as a benefactor of humanity and a promoter of scientific knowledge, to which not many men ever attain.

NOTES

THE Duke of Devonshire, Chancellor of the University of Cambridge, has consented to preside at the meeting of the friends of the late Prof. Sedgwick, which is to be held in the Senate House at Cambridge, on Tuesday, March 25, at two o'clock, to consider what steps shall be taken to raise a memorial to the late professor. Many men of eminence are expected to attend. It is rumoured that the memorial is likely to take the appropriate form of a new geological museum at Cambridge.

WE are sorry to record the death of the interesting wasp referred to by Sir John Lubbock in his address at last year's meeting of the British Association. It slept away as it were on Feb. 20 last, first the head dying, then the thorax, and then the abdomen. It has been deposited in the British Museum.

IN order that local inspectors of weights and measures may more conveniently and accurately compare all commercial measures containing subdivisions of the imperial yard, with verified copies of the official standard measures of length, which have been legalised under the provisions of the Standards Act, 1866, by Her Majesty's Order in Council of March 24, 1871, a model of a new subdivided standard yard, attached to a simple, ingenious, and comparatively inexpensive comparing apparatus, has been constructed by Messrs. Troughton and Simms, under the direction of the Warden of the Standards. This comparing apparatus has been expressly designed as one that may be used by local inspectors of weights and measures for comparing ordinary commercial measures of length, and it may now be inspected at the Standards Department.

WE have received a short paper by Mr. Lewis M. Rutherfurd on the stability of the collodion film. Urged by the statements of Mr. Paschen, in the "Astronomische Nachrichten" in April last, Mr. Rutherfurd determined to subject the question between dry and wet process to a thorough examination, and made a number of measures, proving conclusively the superiority of the former to the latter. This conclusion is of great importance in connection with the approaching Transit of Venus. In all cases save two the distance was greater between the lines when the plate was dry than when wet, the mean excess of the nine measures is Rev. 0·0017, which is $\frac{1}{28,236}$ of an inch; it reaches in no case $\frac{1}{4800}$ of an inch. This result is no doubt due to the cooling of the glass plate, by the evaporation which takes place the moment the wet plate is taken from the plate-holder and exposed to the air under the micrometer. This excess of distance (Rev. 0·0017), would be caused by an increase of temperature for the dry glass of about 4° F. This consideration reveals a source of error in the use of wet plates which he had not before considered, since the same evaporation takes place no doubt during the long exposures given to star plates; the amount will vary according to the hygrometric state of the atmosphere, and may be met by reading wet and dry bulb thermometers. Mr. Rutherfurd's objection to the method used by Mr. Paschen, is that instead of being confined to an investigation of what happens to the collodion film between the moment of exposure wet and the moment of measurement when dry, it is a comparison of the actual state of the plate when dry with what it ought to have been had all the adjustments, manipulations, and instruments been perfect.

AN exhibition for proficiency in natural science will be offered for competition at King's College, Cambridge, on April 22 and following days. Its value is 80*l*. a year for three years. It is open to all British subjects under 20 years of age who bring a satisfactory certificate of good character. The examination will be in chemistry, physics, and physiology, with elementary papers in classics and mathematics. Applications should be sent to the tutor before Easter-day, April 13.

WE mentioned some months ago that Vice-Chancellor Bacon had decided against the validity of the late Mr. Yates's bequest to University College of endowments for the chairs of Geology and Mineralogy, and of Archæology, on the ground that the testator had never fulfilled his expressed intention of framing a code of rules and regulations for the manner in which the appointments to the professorships should be filled up. We are glad to see that the Lord Chancellor has, on appeal, reversed the decision of the Vice-Chancellor, so that the College will derive the benefits from the will designed by the testator.

A COMMITTEE has been formed among the members of the Berlin Geographical Society, and a plan has been drawn up in conjunction with the other geographical societies of Germany, for the completion from the west coast of Africa of the discoveries commenced by Dr. Livingstone from the East. The Committee propose that the expedition should start from the West Coast south of the Equator. The funds for the proper equipment and maintenance of the expedition are already partly provided.

THE Edinburgh Botanical Society has decided to offer triennially a prize of ten guineas, as an encouragement for practical research. The subject for competition is to be announced by the council at the commencement of each triennial period, and the successful competitor must have been a student who has attended the botanical class at the Royal Botanic Garden, Edinburgh, during at least one of the preceding three years, and who has gained honours at the class examinations.

THE mode in which the Fertilisation of Grasses, and especially of Cereals, is effected—a question of no small importance from an agricultural point of view—has recently been the subject of a series of observations by Delpino in Italy, and Hildebrand

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in Germany; and the latter has published the result of his investigations in the "Monatsberichte" of the Berlin Academy. Both these acute observers are at issue with previous writers who maintained that the flowers of cereals, and especially of wheat, were self-fertilised in the unopened flowers, and consequently that the process could not be influenced by the wind. Hildebrand asserts, on the other hand, that impregnation takes place while the flower is open, and while the stigma is in a condition for the access of foreign pollen, that is, from other flowers. The opening of the flower of wheat, however, is completed in such a very short space of time that in a wheat-field there is probably never more than one in 400 of the flowers open at the same time. The contrivances by which in this case, as well as in other grasses, cross-fertilisation is at least rendered possible, are described in detail in the paper. In barley, on the other hand, the majority of the flowers never open, and self-fertilisation is the only condition possible. Delpino states, however, that there are in an ear of barley a very small number of flowers, differently constructed from the rest, in which cross-fertilisation is possible. In the oat the process is stated to vary according to the weather; in fine warm weather the flowers open freely, and cross-fertilisation is favoured; in cold wet weather they remain closed, and self-fertilisation is inevitable In rye, fertilisation from the pollen of other flowers is provided for. The agent in the dissemination of the pollen is scarcely ever insects, almost invariably the wind, to which end both stigma and pollen-grains are specially adapted.

We regret to say that last week we were led to state that Mr. Cleminshaw, recently elected to the Burdett Coutts Scholarship, received his scientific training in the Applied Science department of that College. We are requested to say that this is incorrect, as Mr. Cleminshaw was only a few months at King's College, where he did not study geology at all, while he was for several years at Rugby, to which school really belongs the credit of having trained so successful a student: moreover, Mr. Cleminshaw is, we believe, the third Burdett Coutts' scholar from Rugby within a few years. It is a pity that any school should require to make haste to claim possession of an honour which is not justly its due.

A living specimen of the extremely rare Liberian Hippopotamus (*Chœropsis liberiensis*), from Scarcies River, just north of Sierra Leone, arrived at Liverpool last week, but it unfortunately died on Friday, almost as soon as it reached its destination, Dublin. This second true hippopotamus was first described in 1844 by Dr. Morton, of Philadelphia, in the Journal of the Academy of Natural Sciences of that city. Prof. Leidy, in 1850, showed that its peculiarities rendered its differences from *Hippopotamus* more than specific, and in 1852 gave it the generic name by which it is now known. The full-sized animal is said to be no larger than a heifer, and the specimen under consideration, which was at least seven weeks old, weighed only 23 lbs., whereas the one born in London last November weighed just upon 100 lbs. shortly after birth. But the chief peculiarities of the genus *Chœropsis* are found in the teeth, as there are only two lower incisors instead of four, and the anterior premolars remain functional throughout the life of the animal, instead of being lost as is the case in *Hippopotamus*. In addition to these points in which *Chœropsis* is peculiar, it may be mentioned that the top of the head is convex instead of concave, the central upper incisors are slightly smaller than the outer, instead of larger, and the premaxillary bones are less developed than in Hippopotamus, from a young one of which, as M. A. Milne-Edwards remarks, it would be difficult to distinguish it externally.

From a memorandum affixed to the last part of Messrs. Sharpe and Dresser's "Birds of Europe," we learn that the latter gentleman has removed his entire collection of birds to No. 6, Tenterden Street, Hanover Square, where the work will in future be published, and which will henceforth be the headquarters of the British Ornithologists' Union, as Messrs. Salvin and Godman have likewise removed their valuable collection of American birds to the same quarters, and Lord Lilford as well as Capt. Shelley have done the same with theirs.

A chrome mine has been discovered at Chanli, in the province of Larissa, Turkey in Europe. It is said to be rich.

On January 31, four shocks of earthquake were felt at Kara Hissar (query which) in Asia Minor. The shocks, of which the first two were rather violent, were repeated at intervals of twenty minutes. In the next afternoon, February 1, eleven more shocks were felt, which, though very sharp, only brought down three old abandoned houses. On Saturday, February 17, slight shocks of earthquake were felt in the island of Mitylene; the first at 1 A.M., and the second at 5.20 P.M. The oscillation was from west to east.—An earthquake that occurred on Dec. 29 last, at night, nearly destroyed the large town of San Vicente, in San Salvador, Central America. The upper half of the parish church fell, and many lives were lost.—At Bimlipatam, in India, a shock of earthquake was felt on January 25.—An earthquake is reported to have been felt at Peshawar, on Feb. 12. Its shock lasted for one minute.

According to the *Times of India*, a phenomenon occurred in several parts of the province of Kattywar, on Feb. 12, which gladdened the eyes of the English residents, and excited astonishment in the natives. On that day the ground was whitened by a hailstorm, a phenomenon unprecedented in the experience of the natives, hundreds of whom are reported to have set about gathering the hailstones as they fell, in order to turn them into "the best of confectionaries."

The collector of South Canara has brought to the notice of Government that the young shoots of the bamboo contain a bitter principle, which might be useful as a febrifuge.

The Council of the Society of Arts will proceed to consider the award of the Albert medal early in May next. This medal was instituted to reward "distinguished merit in promoting arts, manufactures, or commerce," and was awarded last year to Mr. Henry Bessemer. The members of the Society are invited to forward to the Secretary, on or before April 12, the names of such men of high distinction as they may think worthy of this honour.

The late Mr. George A. Clark, thread manufacturer, of Paisley, has left 20,000*l.* to Glasgow University for the establishment of four bursaries to be held by the successful competitors for four years, and to be so arranged that one bursary will be competed for each year. We hope the interests of science will not be forgotten in this matter.

The additions to the Zoological Society's Gardens during the last week comprise a Condor Vulture (*Sarcorhamphus gryphus*) from S. America, presented by Lieut. L. C. Strachey, R.N.; a Lapland Bunting (*Centrophanes lapponica*), presented by Mr. F. Bond; a Mantell's Apteryx (*Apteryx mantelli*); an Amherst Pheasant (*Thaumelia amherstiæ*) from China, and a Tamandua Ant-eater (*Tamandua tetradactyla*) from S. America, deposited; two Swainson's Lorikeets (*Trichoglossus novæ-hollandiæ*) from Australia; two Red-eared Bulbuls (*Pycnonotus jocosus*) from India; two Cardinal Grosbeaks (*Cardinalis virginianus*) from N. America; a Long-tailed Glossy Starling (*Lamprotornis æneus*) from W. Africa; a Pantherine Toad (*Bufo pantherinus*) from Tunis; some Natterjack Toads (*Bufo calamita*) from Africa; a Bearded Lizard (*Amphibolurus barbatus*) from Australia; five Banded Sea Horses (*Hippocampus ramulosus*) from France, and some Anemonies, all purchased.

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